

WHAT IS CLAIMED IS:

1. A switch device for use by an operator and connection to an actuator, for enabling the actuator to be  
5 driven when an ID code transmitted from a transponder of a portable device matches a predetermined ID code of a vehicle controller, wherein the switch device transmits a transponder-driving radio wave that causes the transponder to generate electromotive force for transmitting the ID  
10 code, the switch device comprising:

an operation switch operated by the operator for driving the actuator; and

15 a coil antenna used for transmitting the transponder-driving radio wave, the coil antenna being arranged adjacent to the operation switch.

2. The switch device according to claim 1, further comprising:

20 a switch holder that holds the operation switch, the coil antenna being attached to the switch holder.

3. The switch device according to claim 2, wherein the operation switch includes a display portion for displaying an operating state of the actuator, and the  
25 transponder transmits a transponder signal including the ID code, the switch device further comprising:

30 a single circuit substrate arranged in the switch holder and including a lighting circuit for controlling the display of the display portion and a demodulation circuit for demodulating the transponder signal transmitted from the transponder to a signal with a predetermined frequency.

4. The switch device according to claim 1, wherein

the operation switch includes a display portion for displaying an operating state of the actuator, and the transponder transmits a transponder signal including the ID code, the switch device further comprising:

5        a single circuit substrate arranged in the operation switch and including a lighting circuit for generating a lighting signal to control the display of the display portion and a demodulation circuit for demodulating the transponder signal transmitted from the transponder to a  
10      demodulation signal with a predetermined frequency; and  
            a connector arranged in the operation switch, the lighting signal and the demodulation signal being provided to an external device via the connector.

15        5. A switch device for use by an operator and connection to an actuator, for enabling the actuator to be driven when an ID code transmitted from a transponder of a portable device matches a predetermined ID code of a vehicle controller, wherein the switch device transmits a  
20      transponder-driving radio wave that causes the transponder to generate electromotive force for transmitting the ID code, the switch device comprising:  
            an operation switch having an operational surface operated by the operator for driving the actuator; and  
25        a coil antenna used for transmitting the transponder-driving radio wave, the coil antenna being arranged adjacent to the operational surface.

30        6. A switch device for use by an operator and connection to an actuator, for enabling the actuator to be driven when an ID code transmitted from a transponder of a portable device matches a predetermined ID code of a vehicle controller, wherein the switch device transmits a

transponder-driving radio wave that causes the transponder to generate electromotive force for transmitting the ID code, the switch device comprising:

an operation switch having an operational surface  
5 operated by the operator for driving the actuator;  
a switch holder, having a ring that surrounds the operational surface, for holding the operation switch; and  
a coil antenna used for transmitting the transponder-driving radio wave, the coil antenna being arranged near the  
10 operational surface of the operation switch and in the ring.

7. A security system for use by an operator and for controlling driving of an actuator, the security system enabling the actuator to be driven when an ID code

15 transmitted from a transponder matches a predetermined ID code, wherein the security system transmits a transponder-driving radio wave that causes the transponder to generate electromotive force for transmitting the ID code, the security system comprising:

20 a portable device including the transponder;  
an operation switch operated by the operator to drive the actuator; and  
a coil antenna used for transmitting the transponder-driving radio wave, the coil antenna being arranged adjacent  
25 to the operation switch.

8. A security system for use by an operator and for controlling driving of an actuator, the security system comprising:

30 an operation switch operated by the operator for driving the actuator;  
a request signal output unit for transmitting a request signal;

5 a portable device including a transponder for transmitting a transponder signal including a first ID code, the security system enabling the actuator to be driven when the first ID code transmitted from the transponder matches a predetermined second ID code, wherein the security system transmits a transponder-driving radio wave that causes the transponder to generate electromotive force for transmitting the first ID code, the portable device transmitting an ID code signal including a third ID code in response to the 10 request signal transmitted from the request signal output unit;

15 a first determination unit for determining whether the third ID code included in the ID code signal transmitted from the portable device matches a preset fourth ID code; a first control unit for enabling the actuator to be driven when the first determination unit determines that the third ID code and the fourth ID code match;

20 a second determination unit for determining whether the first ID code included in the transponder signal transmitted from the transponder of the portable device matches the second ID code;

25 a second control unit for enabling the actuator to be driven when the second determination unit determines that the first ID code and the second ID code match; and

a coil antenna used to transmit the transponder-driving radio wave, the coil antenna being arranged adjacent to the operation switch.

30 9. A method for operating an operation switch to drive an actuator, wherein the actuator is enabled to be driven when an ID code transmitted from a transponder of a portable device matches a predetermined ID code, the transponder receives a transponder-driving radio wave that

generates electromotive force used to transmit the ID code, and a coil antenna used to output the transponder-driving radio wave is arranged adjacent to the operation switch, the method comprising:

5 operating the operation switch while holding the portable device in a vicinity of the operation switch.

10. The method according to claim 9, wherein the operation switch has an operational surface that is pressed, 10 said operating the operation switch includes placing the portable device against the operational surface of the operation switch and pressing the operation switch with the portable device.

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